

Commonwealth of Kentucky
Division for Air Quality
PERMIT STATEMENT OF BASIS

DRAFT

Conditional Major, Construction / Operating

Permit: F-07-006

A-Carb LLC

February 2, 2007

Vahid Bakhtiar, Reviewer

SOURCE ID: 21-015-00125

SOURCE A.I. #: 137

ACTIVITY ID: APE20060003

SOURCE DESCRIPTION:

A-Carb manufactures aircraft brake pads using carbon vapor infiltration (CVI) for depositing graphite on a prepared carbon substrate. A substrate felting operating uses pre-oxidized acrylonitrile fiber to make brake pad pre-forms. The resulting brake pads are initially carbonized in a two-stage process in separate high temperature carbonizing furnaces. The initial stage (furnace) vents to a thermal oxidizer. The brake pads are then placed in high temperature CVI furnaces for the carbonization process, where a mixture of propane and natural gas is circulated for an extended period of time. The furnace exhaust is through a steam vacuum ejector/barometric condenser system with non-condensable hydrocarbon gases being burned in a steam boiler to produce steam for the process. A cooling tower re-circulates contact cooling water to the process and an emergency generator is available for orderly shutdown of the furnaces in case of power failure. The facility also operates an emergency diesel pump engine for the cooling towers and a natural gas fired standby boiler.

COMMENTS:

Prior to this application, A-Carb has been operating under State Origin Permit S-01-026 since February 21, 2001. A-Carb is requesting to install several new emission units and addition of new construction. A-Carb is proposing to construct 1 new thermal oxidizer #3, 2 new Carbonizing Furnaces #442 and #483, 4 new infiltration furnaces #509-#512 (CVI), 1 new Boiler #3, 1 new Cooling Tower (having two components), 1 new Anti-Oxidant Coating Line consisting of 2 booths and 2 drying ovens, 1 new NDT Coating Line consisting of 3 booths, 1 new Paint Line consisting of 2 booths and 2 drying ovens, 2 new Turning and 2 new Milling machines, 1 new Deurring Station, and 1 new Shot Pen. With the addition of the new units the uncontrolled potential to emit are above major source threshold levels. However, actual emissions will be well below major source threshold levels because each unit is controlled at all times when the process is in operation. The plant source-wide potential emissions of criteria pollutants show that A-Carb is no longer qualifying a State Origin Permit and a Conditional Major Permit is required since the facility takes the emission limits to become an area source. A-Carb had claimed confidentiality to their processing information and the claim was approved on October 9, 2000.

EMISSION AND OPERATING CAPS DESCRIPTION:

1. Volatile organic compound (VOC) emissions shall not exceed 90 tons per year based on a 12 month rolling total for the entire source to preclude a major source Title V review.
2. Hazardous air pollutants (HAPs) emissions shall not exceed 9 tons per year individually and 22.5 tons per year combined based on a rolling 12-month total for the entire source to preclude a major source Title V review.
3. Particulate matter (PM) emissions shall not exceed 90 tons per year based on a 12 month rolling total for the entire source to preclude a major source Title V review.
4. NOx emissions shall not exceed 90 tons per year based on a 12 month rolling total for the entire source to preclude a major source Title V review.

OPERATIONAL FLEXIBILITY:

None

CREDIBLE EVIDENCE:

This permit contains provisions which require that specific test methods, monitoring or recordkeeping be used as a demonstration of compliance with permit limits. On February 24, 1997, the U.S. EPA promulgated revisions to the following federal regulations: 40 CFR Part 51, Sec. 51.212; 40 CFR Part 52, Sec. 52.12; 40 CFR Part 52, Sec. 52.30; 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12, that allow the use of credible evidence to establish compliance with applicable requirements. At the issuance of this permit, Kentucky has only adopted the provisions of 40 CFR Part 60, Sec. 60.11 and 40 CFR Part 61, Sec. 61.12 into its air quality regulations.